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FluMist® Update

Influenza Vaccine Summit Meeting

Atlanta, GA

April 19, 2007

Refrigerated FluMist® Launch for 2007-08

	FluMist (Frozen Formulation) Seasonal Vaccine No Longer Manufactured*	FluMist (Refrigerated Formulation) 2007/2008 Launch
Regulatory Status & Age Indication	Licensed in U.S. in 2003 Healthy persons aged 5 – 49 years	Licensed in U.S. in 2007 Healthy persons aged 5 – 49 years
Storage	-15º C Freezer	2-8º C Refrigerator
Excipients	SPG	SPG, arginine, hydrolyzed porcine gelatin
Preservatives	None	None
Dose Volume	0.5mL (0.25mL per nostril)	0.2mL (0.1mL per nostril)

*Frozen formulation may be used for pandemic vaccine.

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Refrigerated FluMist®

- **Launch planned for 2007-08 season**
  - User stores vaccine refrigerated (2 - 8°C)
  - Current indication – healthy persons aged 5-49 years
  - Expanded indication for children aged 12-59 months without history of wheeze/asthma
    - Under FDA review
    - May 28 PDUFA date
  - Plan to manufacture 7 M doses
- **Pricing and Distribution**
  - Commercial – $17.95 per dose[1] (AmerisourceBergen/McKesson)
  - VFC contract – $16.90 per dose[1] (project depots)
- **Availability targeted to begin in August**

[1] Excludes Federal Excise Tax

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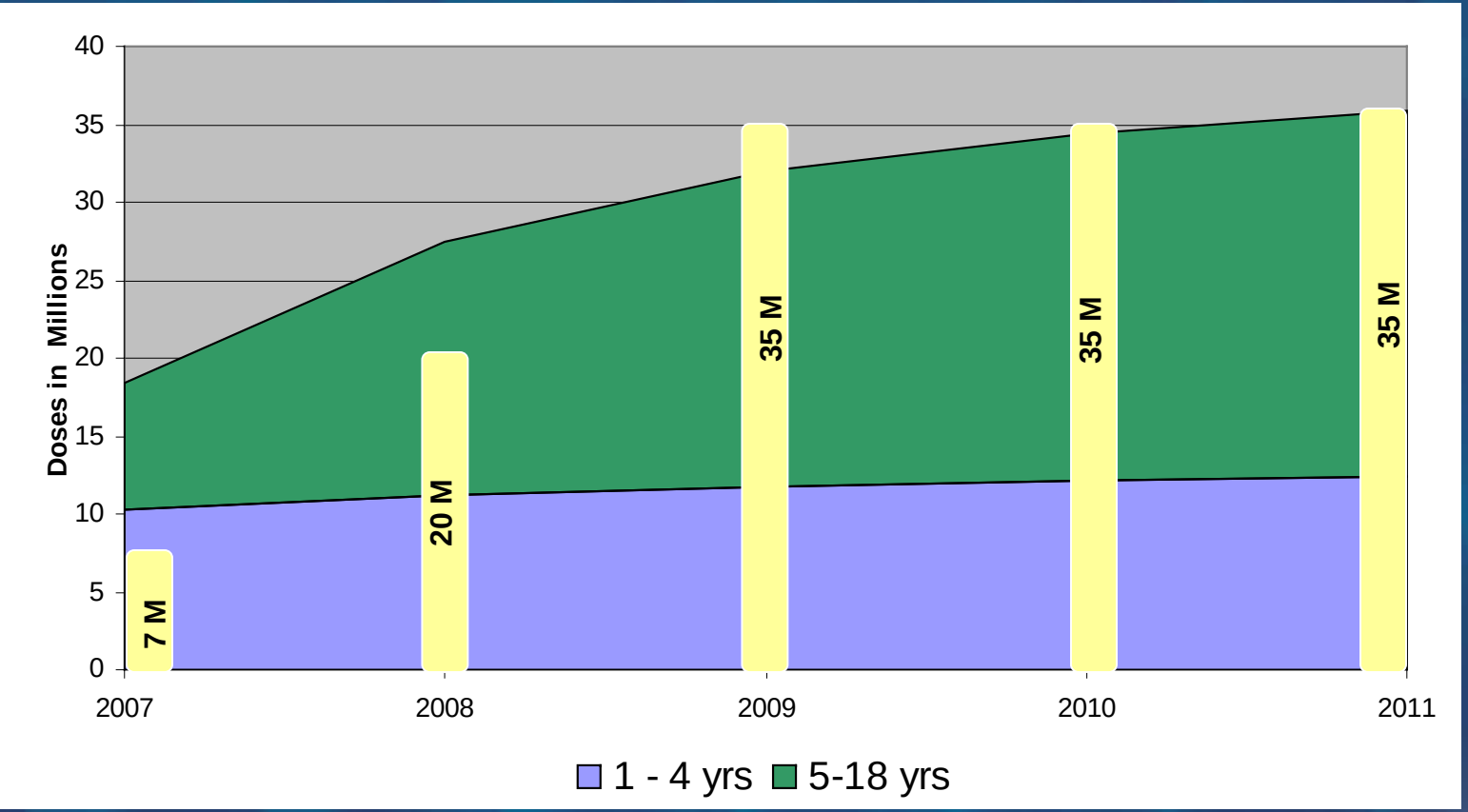
Impact of Expanded Recommendations
School-Aged Children



FluMist® Capacity

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Update on Production of Vaccine
Plasmid Rescue

- Approved by FDA in 2006
- Alternate method for production of seasonal vaccine strains
- Required method for production of HPAI pandemic strains

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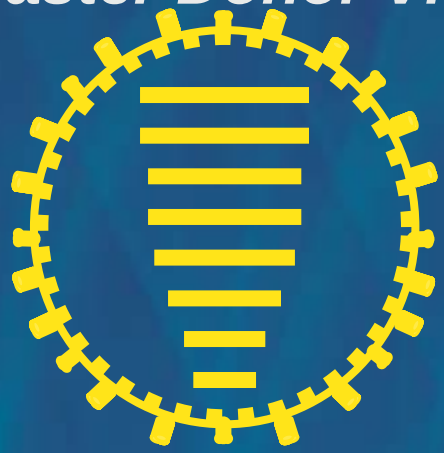
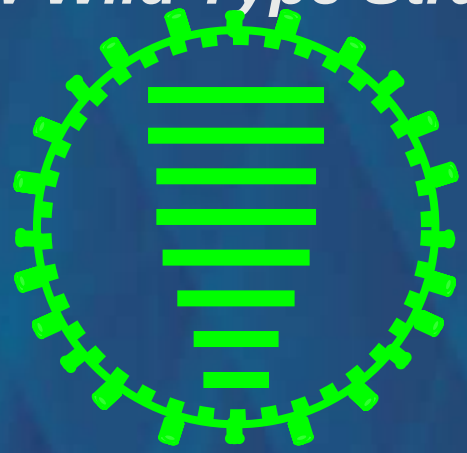
Classical Reassortment

Master Donor Virus

New Wild Type Strain

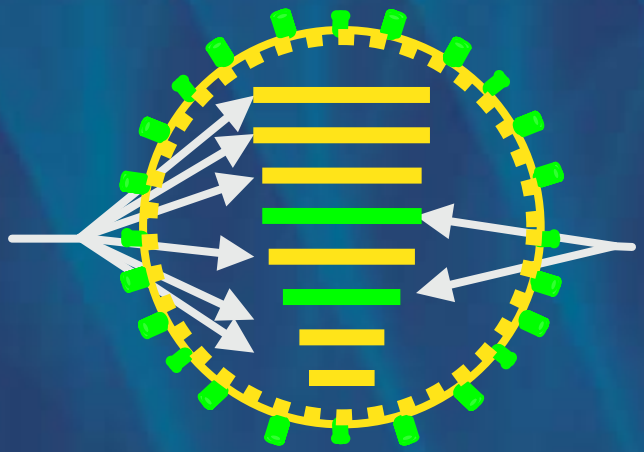




Co-infect cells

256 possible combinations

Six genes from MDV for *ca,ts,att*



Hemagglutinin and neuraminidase genes from wild type for immunity

6:2 Vaccine Seed Strain

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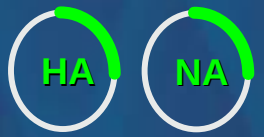
Plasmid Rescue

Master Donor Virus Plasmids

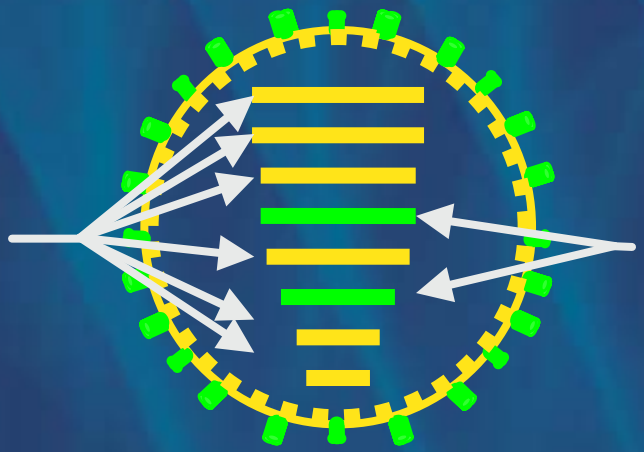
New Wild Type Strain Plasmids



Electroporate Vero cells

Only one possible combination

Six genes from MDV for *ca,ts,att*



Hemagglutinin and neuraminidase genes from wild type for immunity

6:2 Vaccine Seed Strain

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Advantages of Plasmid Rescue

- **No genetic modifications introduced**
  - Same vaccine seeds as classical reassortment method
  - RNA sequence equivalent to classical reassortant
- **Further advantages**
  - Removes risk of exposure to adventitious agents in the wild type isolate
  - Fewer random mutations observed
  - Identical bulk production process
- **Timing of plasmid rescue is predictable**
  - Manufacturing can begin earlier, extending campaign
  - Earlier release of vaccine to the end user
  - Allows for greatest number of vaccine doses delivered

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